LABORATORY BULLETIN

MONTANA STATE DEPARTMENT OF HEALTH
HELENA, MONTANA

No. 21 - October 28, 1969

THROAT CULTURES FOR GROUP A BETA-HEMOLYTIC STREPTOCOCCI

At present we process throat cultures to detect Corynebacterium diptheriae and beta-hemolytic streptococci. However, methods now used for submission of cultures (Loeffler's slant, transport medium, swab in a tube) do not yield maximum numbers of beta-hemolytic streptococci. We are trying to obtain funds for supplies to make up kits satisfactory for submitting cultures for streptococci by mail.

The question is frequently raised as to why all potential pathogens or predominant organisms found in throat cultures (e.g. alpha-streptococci, hemolytic staphylococci, pneumococci, Neisseria spp., Hemophilis spp. etc.) aren't routinely reported. These organisms are of questionable clinical significance in uncomplicated pharyngitis and practically all reports would include alpha-streptococci. In some areas a screening culture for group A beta-hemolytic streptococci is available for $2.00 to $3.00 compared to $6.00 to $8.00 for a complete throat culture. In a paper entitled "Nonstreptococcal Pharyngitis" there is this statement: "Neither mycoplasmas nor bacteria other than Group A streptococci have been definitely established as a cause of naturally occurring pharyngitis in children, nor has antibiotic therapy been shown to influence the course of the illness or to prevent complications in patients with pharyngitis from whom those organisms have been isolated. In the case of diptheria, the essential part of treatment is antitoxin." (Moffet, H. L., Siegel, A. C., and Doyle, H. K.; J. of Pediatrics 73: 51-60, July 1968) (A virus was recovered from 48 percent of the patients hospitalized because of non-streptococcal pharyngitis - adenovirus 23 percent, herpes simplex 8 percent, Coxsackie A from 5 patients with ulcerative or vesicular pharyngitis, 4 patients (out of 17 suspected cases) were infectious mononucleosis.)

The ROCKY MOUNTIAN STATES RHEUMATIC HEART DISEASE CONTROL PROGRAM of the REGIONAL MEDICAL PROGRAM is still in the planning stage and one goal is to have every case of pharyngitis cultured for streptococci. In Montana a special effort will be made to reach "high-risk" groups such as persons living on Indian Reservations and the economically disadvantaged. Here is a statement made at one of our meetings: "Rheumatic fever is unique among the major causes of cardio-vascular disease in that it is the only one that is clearly preventable. The fact that rheumatic fever still occurs with respectable, though diminished frequency, bothers many of us, who would like rheumatic fever to join the company of diptheria, typhoid fever, and now, of measles." A. Taranta, M. D. at Jackson Hole, July 18, 1969. Those of us working in laboratories can do our part by making it possible to have all cases of pharyngitis cultured. This involves 10 percent of the population each year; which for Montana means about 70,000 cultures. Our goal in the state laboratory is to increase the number of throat cultures processed for beta-hemolytic streptococci from 807 in 1969 to 25,000 by 1971. We hope that the remainder (50,000 per year) will be done in local laboratories.

OVER

TOXICOLOGY AND BLOOD ALCOHOL DETERMINATIONS

Toxicological laboratory services are not available in the Montana State Department of Health. Analysis of specimens for toxic substances is available in Montana from the Department of Pathology, Columbus Hospital, 1601 Second Avenue North, Great Falls, Montana 59401; Telephone 453-3231, Ext. 266-268 (J. Pfaff, Jr., M.D., and J. R. Henneford, M. D., Pathologists). Blood alcohol determinations are also available there.

Determinations of Blood Alcohol levels are made in the Chemistry Laboratory of the Montana State Department of Health only through the State Highway Patrol. Containers for submission of specimens are available from them. The charge is $6.00 per specimen.

CURRENT NOTES

1. This year's aseptic meningitis season has turned up a Group B, Type 4 Coxsackie virus in addition to ECHO 30 and Coxsackie A9 reported in the last bulletin.

2. We receive a weekly shipment of primary monkey-kidney tissue cultures and sometimes there is enough left to check polio-antibody titers. Findings on the first 64 sera tested are:

   Susceptible to poliovirus I = 36 percent
   " " II = 25 percent
   " " III = 31 percent

   FOR PREVENTION OF EPIDEMICS IT IS DESIRABLE TO REDUCE SUSCEPTIBLES TO 15 PERCENT! The dangerous situation developing with respect to poliomyelitis is emphasized in the following article: "Developing Gap in Immunity to Poliomyelitis in an Urban Area" Melnick, J. L., Burkhardt, M., Taber, L. H., and Erckman, P. N.; JAMA 209: 1181-1185, Aug. 25, 1969. Montana is no exception! Here is a breakdown of a recent test of 19 serums:

   Immune to all three types = 7/19
   Susceptible to all three types = 1/19*
   Susceptible to types I and II = 2/19
   Susceptible to types II and III = 1/19
   Susceptible to type I only = 2/19
   Susceptible to type II only = 2/19
   Susceptible to type III only = 4/19

   *This "triple-negative" is particularly significant because it was in an Indian child and this is one group which should have been completely vaccinated.

3. The level of susceptibility to rubella in prenatal cases continues at around 15 percent.